

PAT-NO: JP360198861A  
DOCUMENT-IDENTIFIER: JP 60198861 A  
TITLE: THIN FILM TRANSISTOR

PUBN-DATE: October 8, 1985

INVENTOR-INFORMATION:

NAME	COUNTRY
YOSHIMURA, TETSUZO	
WATANABE, MASANORI	

ASSIGNEE-INFORMATION:

NAME	COUNTRY
FUJITSU LTD	N/A

APPL-NO: JP59055518  
APPL-DATE: March 23, 1984

INT-CL (IPC): H01 L 029/78 , H01 L 027/12

US-CL-CURRENT: 257/43 , 257/66 , 257/E29.1 , 257/E29.296

ABSTRACT:

PURPOSE: To obtain a transparent thin film transistor having a large ON-current and a memorizing property by a method wherein a transition metal oxide is used as a semiconductor layer.

CONSTITUTION: A gate 2 is formed on a substrate 1, then an SiO<sub>2</sub> film 3 is deposited on the whole surface, a semiconductor layer 4 is formed, and a source electrode 5 and a drain electrode 6 are formed. Then, an SiO<sub>2</sub> film 7 is provided in such a manner that it will not be formed on the electrode 6, and a thin film transistor TFT is formed. In this constitution, a transition metal oxide which is WO<sub>3</sub> in other words is used. When WO<sub>3</sub> is used for the film 4, its ON-current is approximately two figures higher when compared with the TFT whereon an amorphous semiconductor layer is used. Also, as the WO<sub>3</sub> is transparent, a transparent TFT is obtained when a transparent electrode is used for electrodes 2, 5 and 6. Besides, a WO<sub>3</sub> thin film can maintain the donor position in the film and the width of a depletion layer for a fixed period even after voltage is cut off, and a memorizing property can also be given to the film.

COPYRIGHT: (C)1985,JPO&Japio